CLEAN VERSION

CLAIMS

1/ A method of viewing a garment made up of garment pieces, represented by data stored in a memory of a computer, and having seam lines, on a dummy model having a surface represented by data stored in a memory of a computer, said method comprising:

placing the garment pieces on the surface of the dummy model;

joining together the garment pieces along their seam lines; and

relaxing each garment piece from its position on the surface of the dummy model to its equilibrium position on the dummy model.

2/ The method according to claim 1, wherein the garment pieces are placed on the surface of the dummy model by establishing a bijective and continuous relationship between at least a portion of a garment piece and a corresponding portion of the surface of the dummy model.

3/ The method according to claim 2, wherein the garment pieces are placed on the surface of the dummy model by establishing a bijective and continuous relationship between points representative of a garment piece and points on a corresponding portion of the surface of the dummy model.

4/ The method according to claim 2, wherein the establishing of a bijective and continuous relationship between a garment piece and a corresponding portion of the surface of the dummy model comprises:

selecting a portion of the dummy model that corresponds topologically or is topologically homologous, to the garment piece;

projecting said portion of the dummy model on a plane; and

deforming the piece to bring it to coincide with said projection.

5/ The method according to claim 4, in which:

a triangulation of the garment piece is performed; and

the triangulation of the piece is deformed to bring it to coincide with said projection.

6/ The method according to claim 5, the triangulation of the piece being deformed by:

displacing points defining an outline of the piece to points on an outline of said projection; and

displacing the points that are vertices of triangles within the outline of the piece.

7/ The method according to claim 5, the triangulation being deformed while satisfying a constraint whereby the triangles of the triangulation of the piece are not turned over.

8/ The method according to claim 1, wherein the relaxing of a garment piece comprises:

subdividing the garment piece into a first set of portions; and

deforming said set of portions while minimizing an energy function of the garment piece.

9/ The method according to claim 8, wherein the relaxing of the garment piece further comprising:

subdividing the garment piece into a second set of portions that are smaller than the portions of the first set; and

deforming the second set of portions while minimizing an energy function of the garment piece.

10/ The method according to claim 8, wherein the energy function represents the traction energy of the garment piece.

11/ The method according claim 8, wherein the energy function of the garment piece is computed relative to the position of the piece in two dimensions, and as a function of a value for the stiffness K of a fabric.

12/ The method according to claim 8, wherein the deforming of the sets of portions comprises:

a displacement along field lines coming from the dummy model; and

a displacement along the surface of the fabric, in the other directions.

13/ The method according to claim 12, wherein data corresponding to the field lines is pre-stored.

14/ The method according to claim 9, wherein the portions of the first and second sets of portions are connected zones of the garment piece.

15/ The method according to claim 1, wherein a garment piece is provided with a dart cut which is closed prior to placing said piece on the surface of the dummy model.

16/ The method according to claim 1, wherein two garment pieces are joined together prior to placing them on the surface of the dummy model.

17/ The method according to claim 1, wherein one of the garment pieces is subdivided into at least two subpieces before being placed on the surface of the dummy model.

18/ The method according to claim 1, further comprising:

selecting one of the relaxed garment pieces referred to as a piece to be replaced;

selecting another garment piece referred to as a replacement piece;

placing the replacement piece on the surface of the dummy model;

joining the replacement piece to the other pieces along its seam lines, where applicable; and

relaxing all of the garment pieces from their position on the surface of the dummy to their equilibrium position on the dummy model.

19/ The method according to claim 1, further comprising:

selecting one of the relaxed garment pieces referred to as a piece to be modified;

modifying said piece;

placing said piece as modified on the surface of the dummy model;

joining the modified piece to the other pieces along its seam lines, where applicable; and

relaxing all of the pieces of the garment from their position on the surface of the dummy to their equilibrium position on the dummy model.

20/ The method according to claim 1, further comprising a step of mechanically simulating the garment.

21/ A method of making garment pieces, said method comprising:

pre-viewing the garment on a dummy model using a method according to claim 1; and

making the pieces of the garment.

22/ An apparatus for viewing garment pieces on a dummy model having a surface, said apparatus comprising:

computer means for:

placing garment pieces on the surface of the dummy model;

joining together the garment pieces along their seam lines; and

relaxing the pieces of the garment from their position on the surface of the dummy model to their equilibrium position on the dummy model;

and

viewing means for viewing the dummy model and the garment pieces on the dummy model.

23/ The apparatus according to claim 22, further having means for previewing the selected dummy model or the selected garment pieces.

24/ The apparatus according to claim 22, further comprising means for modifying a selected garment piece or for replacing a garment piece with another garment piece.

25/ The apparatus according to claim 22, further comprising means for selecting garment pieces from a pre-established garment database.

26/ The apparatus according to claim 22, further comprising means for selecting a dummy model from a pre-established dummy model database.

27/ The apparatus according to claim 22, further comprising means for storing data relating to the garment pieces and/or to the dummy model.

28/ An apparatus for making garment pieces, the apparatus comprising:

viewing apparatus according to claim 22;

cutting-out means for cutting out garment pieces; and

data-transmission means for transmitting data between the viewing apparatus and the cutting-out means for cutting out the garment pieces.

29/ The apparatus according to claim 28, the cutting-out means for cutting out the garment pieces being controlled by a microcomputer, and the data-transmission means interconnecting the viewing apparatus and the micro-computer.

30/ The apparatus according to claim 28, the data transmission means being part of a communications network.